

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-27 (canceled)

28. (new) A process for the manufacture of a storage device for electrical energy, the process comprising:

degassing an anode mass, the anode mass comprising a lithium intercalatable carbon in a mixture comprising one or more of an organic solvent, a supporting electrolyte, a polymer binder and a supporting electrolyte additive;

degassing a cathode mass, the cathode mass comprising a lithium intercalatable heavy metal oxide in a mixture comprising one or more of an organic solvent, a supporting electrolyte, a polymer binder and a supporting electrolyte additive;

applying the anode mass to a current conductor and applying the cathode mass to a current conductor;

disposing a separator between the anode mass and the cathode mass to form a composite; and

laminating the composite to form the storage device.

29. The process according to claim 28 wherein the anode mass and the cathode mass are degassed at temperatures from -20°C to 200°C .

30. The process according to claim 29 wherein the anode mass and the cathode mass are degassed at temperatures from 20°C to 150°C .

31. The process according to claim 29 wherein the anode mass and the cathode mass are degassed at pressures from 20 torr to 1×10^{-4} torr.

32. The process according to claim 28 wherein the process is carried out under a blanketing gas.

33. The process according to claim 32 wherein the blanketing gas comprises argon.

34. The process according to claim 28 wherein the process is carried out in the presence of perfluoroalkyl ethers.
35. The process according to claim 28 wherein the Li intercalatable carbon of the anode mass comprises graphite.
36. The process according to claim 35 wherein the graphite has a globular structure.
37. The process according to claim 28 wherein the Li intercalatable carbon is selected from the group consisting of graphenes, polyphenylenes, and polyacetylenes.
38. The process according to claim 28 wherein the Li intercalatable carbon comprises nano-dimension carbon fibres having a hollow, porous structure.
39. The process according to claim 28 wherein the Li intercalatable carbon comprises from 50 to 85% by weight of the anode mass.
40. The process according to claim 28 wherein the Li intercalatable heavy metal oxide is selected from the group consisting of Ti, Zr, V, Cr, Mo, W, Mn, Co, and Ni oxides.
41. The process according to claim 40 wherein the Li intercalatable heavy metal oxide is in an oriented form with a distorted lattice structure.
42. The process according to claim 40 wherein the Li intercalatable heavy metal oxide comprises from 50 to 85 % by weight of the cathode mass.
43. The process according to claim 28 wherein the supporting electrolyte comprises one or more of Li organoborates, LiBF₄, LiClO₄, LiPF₆, Li triflate, Li trifluoromethyl sulphonylimide, Li trifluoromethyl sulphonylmethide, and Li trifluoromethyl sulphonyl bismethide.
44. The process according to claim 43 wherein the supporting electrolyte comprises from 0.1% to 15 % by weight of the anode mass or the cathode mass.

45. The process according to claim 28 wherein the additive comprises one or more of Li acetyl acetate, Li metaborate, Li silicate and spodumene.
46. The process according to claim 28 wherein the additive comprises one or more of vermiculite, MgO, BaO, Al₂O₃, and SiO₂.
47. The process according to claim 28 wherein the additive is impregnated with a Li salt.
48. The process according to claim 28 wherein the additive comprises from 0.1 to 30 % by weight of the supporting electrolyte.
49. The process according to claim 28 wherein the organic solvent dissolves the supporting electrolyte, dissolves the additive and expands the polymer binder.
50. The process according to claim 49 wherein the organic solvent is a carbonate selected from the group consisting of an alkyl carbonate, a dimethyl carbonate, diethyl carbonate, ethylmethyl carbonate, ethylene carbonate, propylene carbonate, and methoxyethyl methyl carbonate.
51. The process according to claim 49 wherein the organic solvent is selected from the group consisting of a glycol ether, a substituted urea, a cyclic urea, and a fluoroalkyl methacrylic acid ester.
52. The process according to claim 49 wherein the organic solvent comprises from 1 to 1000 % by weight of the supporting electrolyte.
53. The process according to claim 28 wherein the polymer binder comprises one or more of polyolefins, polyethylene, polypyrrolidone, polybutenes, and homologues and copolymers thereof.
54. The process according to claim 53 wherein the polymer binder comprises 5 to 30 % by weight of the anode mass or the cathode mass.

55. The process according to claim 28 wherein the separator comprises one or more of a film, a foil, a netting, a woven fabric and a fleece.
56. The process according to claim 28 wherein when the separator comprises organic polymers and one or more of a supporting electrolyte, an additive and an organic solvent.
57. The process according to claim 28 wherein the process further comprises:
mixing and grinding the organic solvent, the supporting electrolyte, and the additive to form a mixed substance in the cathode mass and the anode mass, and
compounding the mixed substance with the lithium intercalatable carbon of the anode mass and the lithium intercalatable heavy metal oxide of the cathode mass.
58. The process according to claim 57 wherein the mixing and grinding occurs in an ultrasonic bed.
59. The process according to claim 57 wherein the mixing and grinding occurs at temperatures of -20 to 200°C .
60. The process according to claim 57 wherein the mixing and grinding occurs at temperatures of room temperature to 100°C .
61. The process according to claim 28, wherein
the anode mass comprises a spreadable, coatable and extrudable mixture of the solvent, the supporting electrolyte, the additive, the polymer binder, and the lithium intercalatable carbon;
the cathode mass comprises a spreadable, coatable and extrudable mixture of the solvent, the supporting electrolyte, the additive, the polymer binder, and the lithium intercalatable metal oxide; and
the separator comprises a spreadable, coatable and extrudable mixture of a solvent, a supporting electrolyte, an additive, and an organic polymer;
wherein the steps of manufacturing the storage device are performed in a continuous, single stage manner.
62. The process according to claim 61 wherein the conductor comprises one or more of a

metal foil, a carbon fibre fabric, a netting, a polyacetylene film, and a polypyrrolidone film.

63. The process according to claim 62 wherein the anode mass or the cathode mass is applied to the current conductor by a doctor blade application, coating and extrusion.

64. The process according to claim 61 wherein the cathode mass is applied to a current conductor comprising a primer-coated Al foil.

65. The process according to claim 61, wherein the anode mass or the cathode mass is applied to two sides of the current collector.

66. The process according to claim 28, wherein the composite is laminated at temperatures ranging from room temperature to 100 °C.

67. A process for producing a lithium battery, the process comprising:
providing a storage device formed according to the process of claim 28, and
housing and poling the storage device to form the lithium battery.

68. The process according to claim 28 wherein the polymer binder comprises one or more of polyvinyl ethers, polystyrene, polystyrene and butadiene copolymers, and polystyrene and isoprene copolymers.

69. The process according to claim 68 wherein the polymer binder comprises anionically produced block polymers.

70. The process according to claim 28 wherein the polymer binder comprises one or more of SBR rubber, butyl rubber, and cis-polybutadiene, and 1,2 polybutadiene.

71. The process according to claim 28 wherein the polymer binder comprises fluoroelastomers.

72. The process according to claim 71 wherein the polymer binder comprises one or more of fluoroelastomer copolymers based on vinylidene fluoride, hexafluoropropene, tetrafluoroethene,

perfluoroalkoxy, and fluoroelastomer terpolymers based on vinylidene fluoride, hexafluoropropene, tetrafluoroethene, perfluoroalkoxy.

73. The process according to claim 28 wherein the polymer binder comprises polyalkylene oxides.